REMARKS

Claims 1-49 are currently pending in the subject application and are presently under consideration. Claims 1, 12, 23, 31 and 45-49 have been amended as shown on pp. 2-8 of the Reply. A telephone interview was conducted on November 6, 2006 between Examiner Wu and Applicant's representative Jay Ryan. However, no agreement was reached with respect to claim amendments that would overcome the instant rejections.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Claim Objections

Claims 31 and 45-49 had been objected to for various informalities. This objection has been overcome with the subject amendment. Withdrawal of the objection is therefore respectfully requested.

II. Rejection of Claim 24 Under 35 U.S.C. §112

Claim 24 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is overcome with the amendment of independent claim 23. Withdrawal of this rejection is respectfully requested.

III. Rejection of Claims 1-14, 30-36 and 45-48 Under 35 U.S.C. §101

Claims 1-14, 30-36 and 45-48 stand rejected under 35 U.S.C. §101 because the claims are allegedly directed to a non-statutory subject matter. This rejection should be withdrawn for at least the following reasons. Independent claims 1 and 12 have been amended to overcome the Examiner's concerns. Specifically, with respect to claims 1-14, the Office Action stated that the claims should be amended to include "the practical application" and "the final result which Applicant considers concrete, useful and tangible." Accordingly, amended claim 1 (and similarly independent claim12) recites a *computer system* including *a query processor that receives* ***from a process*** *a query...* ***and returns the rowset to the process as query results.*** In this way, the claims now further recite the practical application of interacting with a process is now recited, and the

concrete, useful and tangible result of returning query results. It is believed that these amendments place claims 1-14 in condition for allowance.

With respect to claims 30-36 and 45-48, independent claims 30, 32, and 33 relate to a *computer readable medium.* The Examiner cites the specification at page 16, paragraph [0048] as evidence that the "computer readable medium" includes embodiments (*i.e.* "transmission media") not believed to be covered by any of the statutory categories of invention nor capable of enabling any underlying functionality to be realized. Applicants' representative avers to the contrary.

According to *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir. 1999), the legal standard set forth by the Federal circuit for determining whether claims are directed towards statutory subject matter is whether the claims can be applied in a practical application to produce a useful, concrete and tangible result. In *AT&T,* the patent at issue described a message record for long-distance telephone calls that included a primary interexchange carrier ("PIC") indicator, which allowed for differential billing treatment for subscribers. (*See AT&T*, 172 F.3d at 1353). AT&T's claimed process applied Boolean algebra "to determine the value of the PIC indicator, and [applied] that value through switching and recording mechanisms to create a signal useful for billing purposes." (*See AT&T*, 172 F.3d at 1358). Relying on its holdings in *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), *cert. denied*, 525 US 1093 (1999) and *Arrhythmia Research Tech. Inc. v. Corazonix Corp.*, 958 F.2d 1053 (Fed. Cir. 1992), the Court held that the AT&T process was patentable subject matter:

> In *State Street*, we held that the processing system there was patentable subject matter because the system takes data representing discrete dollar amounts through a series of mathematical calculations to determine a final share price – ***a useful, concrete, and tangible result***. *See* 149 F.3d at 1373, 47 USPQ2d at 1601. In this case, Excel argues, correctly, that the PIC indicator value is derived using a simple mathematical principle (p and q). But that is not determinative because AT&T does not claim the Boolean principle as such or attempt to forestall its use in any other application. It is clear from the written description of the '184 patent that AT&T is only claiming a process that uses the Boolean principle in order to determine the value of the PIC

> indicator. The PIC indicator represents ***information*** about the call recipient's PIC, ***a useful, non-abstract result*** that facilitates differential billing of long-distance calls made by an IXC's subscriber. Because the claimed process applies the Boolean principle to produce a ***useful, concrete, tangible result*** without pre-empting other uses of the mathematical principle, on its face the claimed process comfortably falls within the scope of Section 101. *See Arrhythmia Research Tech. Inc. v. Corazonix Corp.*, 958 F.2d 1053, 1060, 22 USPQ2d 1033, 1039 (Fed. Cir. 1992) ("That the product is numerical is not a criterion of whether the claim is directed to statutory subject matter."). *See AT&T*, 172 F.3d at 1358 (emphasis added).

In *Arrhythmia*, electrocardiograph signals were input into a computer and filtered and analyzed to determine the average magnitude of the signals. The resulting output signal was then compared to a predetermined level to determine whether the patient was at high risk for a particular arrhythmia. The Court found the claims patentable subject matter stating:

> The resultant output is not an abstract number, but is a ***signal*** related to the patient's heart activity. These claimed steps of "converting", "applying", "determining", and "comparing" are physical process steps that transform one ***physical, electrical signal*** into another. ***The view that "there is nothing necessarily physical about 'signals'" is incorrect.*** *In re Taner*, 681 F.2d 787, 790, 214 USPQ 678, 681 (CCPA 1982) (holding statutory claims to a method of seismic exploration including the mathematically described steps of "summing" and "simulating from"). . . . The computer-performed operations transform a particular input ***signal*** to a different output ***signal***, in accordance with the internal structure of the computer as configured by electronic instructions. "The claimed invention . . . converts one ***physical thing*** into another ***physical thing*** just as any other electrical circuitry would do". *Arrhythmia,* 958 F.2d at 1059, 1060 (citations omitted) (emphasis added).

In *State Street*, the Federal Circuit remarked upon its decision in *Arrhythmia* and noted that the transformation of electrocardiographic signals was patentable as "a practical application of an abstract idea … because it corresponded to a useful, concrete

or tangible thing – the condition of a patient's heart." (*State Street*, 149 F.3d at 1373). The Federal Circuit also remarked in *State Street* that:

> We note that, for the purposes of a Section 101 analysis, it is of little relevance whether [a claim] is directed to a "machine" or a "process," as long as it falls within at least one of the four enumerated categories of patentable subject matter . . . . *State Street*, 149, F.3d at 1373.

As noted *supra*, the Federal Circuit case law supports that carrier waves/signals fall within at least one of the four enumerated categories of patentable subject matter. The Federal Circuit has made clear that signals are physical things, (*See Arrhythmia,* 958 F.2d at 1059, 1060), and as such carrier signals/waves are not naturally occurring phenomena, but rather, manufactured signals which accordingly are patentable products of manufacture in and of themselves. Thus, as discussed in the specification, "transmission media" such as carrier waves/signals are physical things and are useful and fall within the ambit of being classified as computer readable media. Consequently, the subject claim clearly meets the aforementioned legal standards set forth in *AT&T Corp. v. Excel Communications, Inc.*, *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, and *Arrhythmia Research Tech. Inc. v. Corazonix Corp.*

Further, it is submitted that even if carrier waves or signals were not patentable subject matter (which for reasons stated *supra* would be contrary to current case law), it is apparent that the claimed computer-readable medium is not defined in the specification as being specifically a carrier wave or signal. Rather, the specification clearly indicates that the computer-readable medium can *comprise* a carrier wave or signal, which is clearly distinguishable from the computer-readable medium *being* a carrier wave or signal. Thus, given this clarification, it is apparent that there exists a requisite functional interrelationship between the computer-readable medium and the carrier wave or signal (*e.g.*, the waveform causes a concrete alteration to portions of the computer-readable medium). Accordingly, this rejection should be withdrawn with respect to independent claims 30, 32 and 33, and claims that depend there from.

IV. Rejection of Claims 1-49 Under 35 U.S.C. §102(e)

Claims 1-49 stand rejected under 35 U.S.C. §102(e) as being anticipated by Cheng *et al.*, (US 6,366,934). This rejection should be withdrawn for the following reasons. Cheng *et al.* does not disclose or suggest each and every limitation set forth in the subject claims.

> A single prior art reference anticipates a patent claim only if it ***expressly or inherently describes each and every limitation set forth in the patent claim***. *Trintec Industries, Inc. v. Top-U.S.A. Corp.,* 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The ***identical invention must be shown in as complete detail as is contained in the … claim***. *Richardson v. Suzuki Motor Co.,* 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

Applicants' claimed subject matter relates to a computerized system and method that transforms hierarchical data into a rowset. In particular, amended claim 1 (and similarly independent claims 12, 20, 23, 25, 30, 32, 33 and 37) recites *a parser that parses the hierarchical data to form an active store* ***that holds a parsed image of the hierarchical data*** and *a query processor that receives* ***from a process*** *a query of a database query language including a number of metaproperties and that uses the query in selecting a subset of the data from the active store that matches the query to form the rowset, and* ***returns the rowset to the process as query results***. Cheng *et al.* does not disclose or suggest these novel aspects of the invention as claimed.

Cheng *et al.* relates to relational extenders for a computer-implemented relational database system. Contrary to assertions in the Office Action, the cited reference does not disclose or suggest, at the cited passages or elsewhere, the claimed system and method. Rather, the cited sections merely disclose a number of incidental features which are incorrectly read onto the claimed subject matter. Col. 3, lines 35-60 merely disclose a relational extender for allowing XML datatypes to be manipulated in an SQL database environment, rather than *transforming hierarchical data into a rowset*. Col. 4, lines 7-19 is simply Cheng *et al.'s* "object of the invention" stating that structural search capabilities are integrated into IBM's "DB2 SELECT" queries for retrieving XML documents. There

is no disclosure or suggestion of the many claimed aspects of the *query processor* against which this short passage has been cited. Col. 8, lines 15-20 discloses including "user defined functions" (UDFs) into the SQL statements to describe properties of the XML documents, for storing and retrieving XML data internally, which is clearly very different from the claimed *query of a database query language including a number of metaproperties*. Col. 10, lines 30-40 discloses an XML parser which is used to find or create an ID so that XML documents can be stored in the DB2 database. There is nothing in this passage or elsewhere to disclose or suggest the claimed *parser that parses the hierarchical data to form an active store* ***that holds a parsed image of the hierarchical data.*** It is therefore readily apparent that Cheng *et al.* does not teach or suggest the aforementioned claimed aspects, but in fact relates to a very different system, as recited in amended claim 1. For at least the above reasons, the rejection of independent claims 1, 12, 20, 23, 25, 30, 32, 33 and 37 (and claims that depend there from) should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP1469USA].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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